

AMENDMENTS TO THE CLAIMS:

Please amend Claims 1-7 and 9-11, and add new Claims 12-20, to read as follows.

1. (Currently Amended) An electron beam lithography apparatus including an electron optical lens-barrel having an electron lens for converging an electron beam and a deflector for deflecting the electron beam, a sample chamber for holding a sample to be subjected to lithography in a vacuum state, and a sample stage on which the sample is placed, said apparatus comprising:

~~a magnetic constraint structure for constraining a posture of the sample stage using a magnetic force~~ a magnetic force generator for applying a pre-load to the sample stage; and

a first ~~leakage~~ magnetic field shield for shielding a ~~leakage~~ magnetic field from said magnetic force generator ~~constraint structure~~ to an internal space in the sample chamber; and

~~a second leakage magnetic field shield for shielding a leakage magnetic field from the electron optical lens-barrel to the internal space in the sample chamber.~~

2. (Currently Amended) The apparatus according to claim 1, further comprising a surface plate for guiding the sample stage, wherein said magnetic force generator includes a permanent magnet and the sample stage is attracted to said surface

~~plate by an attracting force of said permanent magnet constraint structure constrains the posture of the sample stage using a magnetic force generated by a permanent magnet.~~

3. (Currently Amended) An electron beam lithography apparatus including an electron optical lens-barrel having an electron lens for converging an electron beam and a deflector for deflecting the electron beam, a sample chamber for holding a sample to be subjected to lithography in a vacuum state, and a sample stage on which the sample is placed, said apparatus comprising:

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an single-axis electromagnetic driver for electromagnetically driving the sample stage in a single direction; and

a first ~~leakage~~ magnetic field shield for shielding a ~~leakage~~ magnetic field from said electromagnetic driver to an internal space in the sample chamber.

4. (Currently Amended) The apparatus according to claim 3, further comprising a second ~~leakage~~ magnetic field shield for shielding a ~~leakage~~ magnetic field from the electron optical lens-barrel to the internal space in the sample chamber.

5. (Currently Amended) The apparatus according to claim 3, wherein said first ~~leakage~~ magnetic field shield comprises a fixed magnetic field shield member;

said single-axis electromagnetic driver comprises

a plurality of permanent magnets fixed inside said magnetic field shield member while being aligned in a driving direction of the sample stage, and
a movable driving coil opposing said permanent magnets; and
the sample stage is coupled to said driving coil and driven by energizing said driving coil to drive said driving coil.

6. (Currently Amended) The apparatus according to claim 3, wherein said first ~~leakage~~ magnetic field shield comprises a movable magnetic field shield member;
said electromagnetic driver comprises
a permanent magnet fixed to said magnetic field shield member, and
a plurality of driving coils fixed while opposing said permanent magnet and aligned in a driving direction of the sample stage; and
the sample stage is coupled to said magnetic field shield member and permanent magnet and driven by energizing, of said plurality of driving coils, driving coils located inside said magnetic field shield member to drive said permanent magnet and said magnetic field shield member.

7. (Currently Amended) A stage used in an electron beam lithography apparatus, comprising:
a sample stage on which a sample is placed;

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a magnetic force generator for applying a pre-load to said sample stage; and

a ~~leakage~~ magnetic field shield for shielding a ~~leakage~~ magnetic field from said magnetic force generator.

8. (Original) The stage according to claim 7, wherein said sample stage is supported to float on a surface plate by air.

9. (Currently Amended) The stage according to claim 7, wherein said ~~leakage~~ magnetic field shield is provided outside said magnetic force generator.

10. (Currently Amended) The stage according to claim 7, wherein letting t_1 be a distance between a surface plate for guiding said magnetic force generator and a surface, opposing the surface plate, of said magnetic force generator, and t_2 be a distance between an edge portion of said ~~leakage~~ magnetic field shield and the surface plate, a relationship $t_1 > t_2$ is satisfied.

11. (Currently Amended) An electron beam lithography method using an electron beam lithography apparatus comprising an electron optical lens-barrel having an electron lens for converging an electron beam and a deflector for deflecting the electron beam, a surface plate, a sample stage movable on the surface plate, a magnetic force generator for applying a pre-load to the sample stage, and a ~~leakage~~ magnetic field shield

for shielding a leakage magnetic field from the magnetic force generator, comprising the steps of:

placing a sample on the sample stage; and

directly drawing a pattern on the sample using the electron beam.

12. (New) The apparatus according to claim 1, further comprising a second magnetic field shield for shielding a magnetic field from the electron optical lens-barrel to the internal space in the sample chamber.

13. (New) The apparatus according to claim 1, further comprising a second magnetic field shield for shielding a leakage magnetic field from the first magnetic field shield to the internal space in the sample chamber.

14. (New) The apparatus according to claim 2, wherein said first magnetic field shield is arranged to surround surfaces of said permanent magnet except a surface opposing said surface plate.

15. (New) The apparatus according to claim 2, wherein said sample stage is supported to float on said surface plate by air.

16. (New) The apparatus according to claim 3, wherein said first magnetic field shield has an opening and is arranged to surround said single-axis

electromagnetic driver, and said single-axis electromagnetic driver and the sample stage are connected through the opening.

17. (New) The apparatus according to claim 3, further comprising a second magnetic field shield for shielding a leakage magnetic field from said first magnetic field shield to the internal space in the sample chamber.

18. (New) The apparatus according to claim 7, wherein said magnetic force generator includes a permanent magnet, said sample stage being attracted to a surface plate for guiding said sample stage by an attracting force of said permanent magnet.

19. (New) The stage according to claim 7, further comprising a second magnetic field shield for shielding a leakage magnetic field from the first magnetic field shield to the internal space in the sample chamber.

20. (New) The stage according to claim 18, wherein said first magnetic field shield is arranged to surround surfaces of said permanent magnet except a surface opposing said surface plate.